Section 1. Registration Information

Source Identification

Facility Name:	SHAMROCK FOODS COMPANY
Parent Company #1 Name:	Shamrock Foods Company
Parent Company #2 Name:	

Submission and Acceptance

Submission Type:	First-time submission
Subsequent RMP Submission Reason:	
Description:	
Receipt Date:	06-Dec-2011
Postmark Date:	06-Dec-2011
Next Due Date:	06-Dec-2016
Completeness Check Date:	06-Dec-2011
Complete RMP:	Yes
De-Registration / Closed Reason:	
De-Registration / Closed Reason Other Text:	
De-Registered / Closed Date:	
De-Registered / Closed Effective Date:	
Certification Received:	

Facility Identification

EPA Facility Identifier:	1000 0021 4886
Other EPA Systems Facility ID:	

Dun and Bradstreet Numbers (DUNS)

Facility DUNS:	42370734
Parent Company #1 DUNS:	42370734
Parent Company #2 DUNS:	

Facility Location Address

Street 1:	2228 N BLACK CANYON HWY
Street 2:	
City:	PHOENIX
State:	ARIZONA
ZIP:	85009
ZIP4:	
County:	MARICOPA

Facility Latitude and Longitude

Latitude (decimal):	33.281989
Longitude (decimal):	-112.065420
Lat/Long Method:	GPS - Unspecified
Lat/Long Description:	Center of Facility
Horizontal Accuracy Measure:	5
Horizontal Reference Datum Name:	
Source Map Scale Number:	

Owner or Operator

Operator Name:	Shamrock Food Company
Operator Phone:	(602) 763-0335

Mailing Address

Operator Street 1:	2228 N BLACK CANYON HWY
Operator Street 2:	
Operator City:	Phoenix
Operator State:	ARIZONA
Operator ZIP:	85009
Operator ZIP4:	
Operator Foreign State or Province:	
Operator Foreign ZIP:	
Operator Foreign Country:	

Name and title of person or position responsible for Part 68 (RMP) Implementation

RMP Name of Person:	Jeff Patterson
RMP Title of Person or Position:	Vice President
RMP E-mail Address:	Jeff_Patternson@shamrockfoods.com

Emergency Contact

Emergency Contact Name:	Jack Garrett
Emergency Contact Title:	Chief Engineer
Emergency Contact Phone:	(602) 477-2686
Emergency Contact 24-Hour Phone:	(602) 763-0335
Emergency Contact Ext. or PIN:	
Emergency Contact E-mail Address:	Jack_Garrett@shamrockfoods.com

Other Points of Contact

Facility or Parent Company E-mail Address:	James_Decker@shamrockfoods.com
Facility Public Contact Phone:	(602) 477-2617
Facility or Parent Company WWW Homepage Address:	

Local Emergency Planning Committee

LEPC:	Maricopa County LEPC

Full Time Equivalent Employees

Number of Full Time Employees (FTE) on Site:	400
FTE Claimed as CBI:	

Covered By

OSHA PSM :	
EPCRA 302 :	Yes
CAA Title V:	
Air Operating Permit ID:	

OSHA Ranking

OSHA Star or Merit Ranking:

Last Safety Inspection

Last Safety Inspection (By an External Agency) Date:	02-Sep-2009
Last Safety Inspection Performed By an External Agency:	Fire Department

Predictive Filing

Did this RMP involve predictive filing?:

Preparer Information

Preparer Name:	Donald Woods
Preparer Phone:	(480) 860-5710
Preparer Street 1:	11050 N. 123rd St.
Preparer Street 2:	
Preparer City:	Scottsdale
Preparer State:	ARIZONA
Preparer ZIP:	85259
Preparer ZIP4:	
Preparer Foreign State:	
Preparer Foreign Country:	
Preparer Foreign ZIP:	

Confidential Business Information (CBI)

CBI Claimed:
Substantiation Provided:
Unsanitized RMP Provided:

Reportable Accidents

Reportable Accidents:	See Section 6. Accident History below to determine if there were any accidents reported for this RMP.

Process Chemicals

Process ID:	1000028227
Description:	West Mycom Room
Process Chemical ID:	1000033755
Program Level:	Program Level 2 process
Chemical Name:	Ammonia (anhydrous)
CAS Number:	7664-41-7
Quantity (lbs):	9100
CBI Claimed:	
Flammable/Toxic:	Toxic

Process ID:	1000028226
Description:	East Mycom Room
Process Chemical ID:	1000033754
Program Level:	Program Level 2 process
Chemical Name:	Ammonia (anhydrous)
CAS Number:	7664-41-7
Quantity (lbs):	6090
CBI Claimed:	
Flammable/Toxic:	Toxic

Process NAICS

Process ID:	1000028227
Process NAICS ID:	1000028528
Program Level:	Program Level 2 process
NAICS Code:	311511
NAICS Description:	Fluid Milk Manufacturing

Process ID:	1000028226
Process NAICS ID:	1000028529
Program Level:	Program Level 2 process
NAICS Code:	311511
NAICS Description:	Fluid Milk Manufacturing

Section 2. Toxics: Worst Case

Toxic Worst ID: 1000023404

Percent Weight:	100.0
Physical State:	Gas liquified by pressure
Model Used:	EPA's RMP Guidance for Ammonia Refrigeration Reference Tables or Equations
Release Duration (mins):	10
Wind Speed (m/sec):	3.0
Atmospheric Stability Class:	F
Topography:	Urban

Passive Mitigation Considered

Dikes:	
Enclosures:	
Berms:	
Drains:	
Sumps:	
Other Type:	

Section 3. Toxics: Alternative Release

Toxic Alter ID: 1000025944

Percent Weight:	100.0
Physical State:	Gas liquified by pressure
Model Used:	EPA's RMP Guidance for Ammonia Refrigeration Reference Tables or Equations
Wind Speed (m/sec):	3.0
Atmospheric Stability Class:	D
Topography:	Urban

Passive Mitigation Considered

Dikes:	
Enclosures:	
Berms:	
Drains:	
Sumps:	
Other Type:	

Active Mitigation Considered

Sprinkler System:	Yes
Deluge System:	
Water Curtain:	
Neutralization:	
Excess Flow Valve:	
Flares:	
Scrubbers:	
Emergency Shutdown:	Yes
Other Type:	

Section 4. Flammables: Worst Case

No records found.

Section 5. Flammables: Alternative Release

No records found.

Section 6. Accident History

No records found.

Section 7. Program Level 3

Section 8. Program Level 2

Description:

West Mycom Room - Anhydrous ammonia is used by the facility as an industrial refrigerant. Two independent and separate refrigeration processes (plants) are located on site. The systems are not interconnected, and a catastrophic failure in one system should not affect the other. Moreover, since the systems service separate areas, the probability of a fire or other disaster affecting two systems is low.

Ammonia Refrigerant System Description

Name/Location West Mycom Room
Transfer Method - Glycol/Water System for process cooling
Storage Capacity - 9100 lbs
Storage Pressure - 100 to 120 psi
Storage Temperature - 110ºF

Ammonia is used to chill a glycol/water solution in each compressor and chiller area. As a result, ammonia does not generally leave the compressor areas, and is not piped into the dairy. However, compressed liquid ammonia is piped from the Mycom Rooms to heat exchanger coils located in the Cold Rooms (Building B & C). The heat exchanger coils (chillers) are located in a roof mounted penthouse over Cold Room C (southern portion), and are suspended from the ceiling inside Cold Room B (northern portion). A leak in these lines or coils could release ammonia liquid and gas into that portion of the plant, and/or the environment.

Releases of pressurized ammonia could result from a variety of causes, including equipment malfunction, piping or storage system failures, leaking valves, or mechanical damage, e.g. being struck by a fork truck or fire in the area. Depending on the location in the refrigeration systems, ammonia would be released as a liquid or gas. However, because of the temperature and pressures within the system, any released liquid would rapidly evaporate into the gaseous phase.

Safety control systems installed on the refrigeration processes include:

An automated airborne ammonia monitoring and alarm system is installed in the East and West Mycom Rooms (Building D). This system sounds an alarm inside and outside of the refrigeration compressor room if airborne levels of ammonia exceed the alarm set point of 150 ppm (50% of the IDLH). Activation of the alarm will also start the emergency purge ventilation system and shutdown the ammonia compressor equipment in those rooms.

A high capacity emergency purge ventilation system is also installed in the East and West Mycom rooms (Building D). When activated, these systems will provide large quantities of fresh air to the room. The emergency activation control button for the ventilation system is located outside the engine room, near the west and north door. (Phoenix Fire Department 1997 Unified Fire Code 6311)

Numerous Pressure Safety Valves (PSV) are located throughout each process in critical locations. The design and installation have been performed in accordance with ASME requirements. These valves vent to the outside of the building.

Each process is equipped with a logic controlled compressor that is continually supervised by a computerized control system. Deviations from set safety parameters (temperature, pressure, flow) will immediate stop the compressor and provide a local and remote alarm notification.

Program Level 2 Prevention Program Chemicals

Prevention Program Chemical ID:	1000020696
Chemical Name:	Ammonia (anhydrous)
Flammable/Toxic:	Toxic

CAS Number:	7664-41-7
Prevention Program Level 2 ID:	1000019491
NAICS Code:	311511

Safety Information

Safety Review Date (The date of the most recent review or revision of the safety infomation):	27-Jan-2011

Safety Compliance Regulations or Design Codes/Standards

NFPA 58 (or state law based on NFPA 58):	
OSHA (29 CFR 1910.111):	
ASTM Standards:	
ANSI Standards:	
ASME Standards:	Yes
None:	
Other Regulation, Design Code, or Standard:	City of Phoenix Unified Fire Code
Comments:	

Hazard Review

Hazard Review Date (The date of completion of most recent review or update):	27-Jan-2011
Change Completion Date (The expected or actual date of completion of all changes resulting from the hazard review):	30-Dec-2011

Major Hazards Identified

Toxic Release:	Yes
Fire:	Yes
Explosion:	
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	
Overfilling:	Yes
Contamination:	Yes
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	
Earthquake:	
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	Worker Training

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	

Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	Yes
Emergency Power:	Yes
Backup Pump:	
Grounding Equipment:	
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	Yes
Dikes:	
Fire Walls:	Yes
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	Yes
Neutralization:	
None:	
Other Mitigation System in Use:	

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	
None:	
Other Monitoring/Detection System in Use:	

Changes Since Last PHA or PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	Yes
Other Changes Since Last PHA or PHA Update:	

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	27-Jan-2011

Training

Training Review Date (The date of the most recent review or revision of training programs):	06-Oct-2011

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	
Demonstration:	
Observation:	Yes
Other Type of Competency Testing Used:	

Maintenance

Maintenance Review Date (The date of the most recent review or revision of maintenance procedures):	06-Oct-2011
Equipment Inspection Date (The date of the most recent equipment inspection or test):	21-Dec-2009
Equipment Most Recently Inspected or Tested:	Compressors, Condensers, Evaporators, Heat Exchangers, Instrumentation, Piping, Pumps, Relief Valves, Ventilation, Vessels, General Safety

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	
Audit Completion Date (The expected or actual date of completion of all changes resulting from the compliance audit):	

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Changes Date (Expected or actual date of completion of all changes resulting from the investigation):	
Most Recent Change Date: (The date of the most recent change that triggered a review or revision of safety information):	

Confidential Business Information

CBI Claimed:	

Description:

East Mycom Room - Anhydrous ammonia is used by the facility as an industrial refrigerant. Two independent and separate refrigeration processes (plants) are located on site. The systems are not interconnected, and a catastrophic failure in one system

should not affect the other. Moreover, since the systems service separate areas, the probability of a fire or other disaster affecting two systems is low.

Ammonia Refrigerant System Description

Name/Location East Mycom Room
Transfer Method - Glycol/Water System for process cooling
Storage Capacity - 6090 lbs
Storage Pressure - 100 to 120 psi
Storage Temperature - 110ºF

Ammonia is used to chill a glycol/water solution in each compressor and chiller area. As a result, ammonia does not generally leave the compressor areas, and is not piped into the dairy. However, compressed liquid ammonia is piped from the Mycom Rooms to heat exchanger coils located in the Cold Rooms (Building B & C). The heat exchanger coils (chillers) are located in a roof mounted penthouse over Cold Room C (southern portion), and are suspended from the ceiling inside Cold Room B (northern portion). A leak in these lines or coils could release ammonia liquid and gas into that portion of the plant, and/or the environment.

Releases of pressurized ammonia could result from a variety of causes, including equipment malfunction, piping or storage system failures, leaking valves, or mechanical damage, e.g. being struck by a fork truck or fire in the area. Depending on the location in the refrigeration systems, ammonia would be released as a liquid or gas. However, because of the temperature and pressures within the system, any released liquid would rapidly evaporate into the gaseous phase.

Safety control systems installed on the refrigeration processes include:

An emergency ammonia dump system installed on the East Mycom Room (Building K). If a significant problem were to develop in the refrigeration unit, the dump system could be manually activated. When activated, the ammonia in the refrigeration unit would be rapidly bubbled through a large water tank. The water present in the tank would react with the anhydrous ammonia, and should reduce the escape of ammonia to the atmosphere. (Use of this tank is NOT recommended)

An automated airborne ammonia monitoring and alarm system is installed in the East and West Mycom Rooms (Building D). This system sounds an alarm inside and outside of the refrigeration compressor room if airborne levels of ammonia exceed the alarm set point of 150 ppm (50% of the IDLH). Activation of the alarm will also start the emergency purge ventilation system and shutdown the ammonia compressor equipment in those rooms.

A high capacity emergency purge ventilation system is also installed in the East and West Mycom rooms (Building D). When activated, these systems will provide large quantities of fresh air to the room. The emergency activation control button for the ventilation system is located outside the engine room, near the west and north door. (Phoenix Fire Department 1997 Unified Fire Code 6311)

Numerous Pressure Safety Valves (PSV) are located throughout each process in critical locations. The design and installation have been performed in accordance with ASME requirements. These valves vent to the outside of the building.

Each process is equipped with a logic controlled compressor that is continually supervised by a computerized control system. Deviations from set safety parameters (temperature, pressure, flow) will immediate stop the compressor and provide a local and remote alarm notification.

Program Level 2 Prevention Program Chemicals

Prevention Program Chemical ID:	1000020695
Chemical Name:	Ammonia (anhydrous)
Flammable/Toxic:	Toxic
CAS Number:	7664-41-7

Prevention Program Level 2 ID:	1000019490
NAICS Code:	311511

Safety Information

Safety Review Date (The date of the most recent review or revision of the safety infomation):	27-Jan-2011

Safety Compliance Regulations or Design Codes/Standards

NFPA 58 (or state law based on NFPA 58):	
OSHA (29 CFR 1910.111):	
ASTM Standards:	
ANSI Standards:	
ASME Standards:	Yes
None:	
Other Regulation, Design Code, or Standard:	City of Phoenix Unified Fire Code
Comments:	

Hazard Review

Hazard Review Date (The date of completion of most recent review or update):	27-Jan-2011
Change Completion Date (The expected or actual date of completion of all changes resulting from the hazard review):	30-Dec-2011

Major Hazards Identified

Toxic Release:	Yes
Fire:	Yes
Explosion:	
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	
Overfilling:	Yes
Contamination:	Yes
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	
Earthquake:	
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	Worker Training

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	Yes
Flares:	
Manual Shutoffs:	Yes

Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	Yes
Emergency Power:	Yes
Backup Pump:	
Grounding Equipment:	
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	Yes
Dikes:	
Fire Walls:	Yes
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	Yes
Neutralization:	
None:	
Other Mitigation System in Use:	

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	
None:	
Other Monitoring/Detection System in Use:	

Changes Since Last PHA or PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	Yes
Other Changes Since Last PHA or PHA Update:	

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	27-Jan-2011

Training

Training Review Date (The date of the most recent review or revision of training programs):	06-Oct-2011

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	
Demonstration:	
Observation:	Yes
Other Type of Competency Testing Used:	

Maintenance

Maintenance Review Date (The date of the most recent review or revision of maintenance procedures):	06-Oct-2011
Equipment Inspection Date (The date of the most recent equipment inspection or test):	11-Dec-2009
Equipment Most Recently Inspected or Tested:	Compressors, Condensers, Evaporators, Heat Exchangers, Instrumentation, Piping, Pumps, Relief Valves, Ventilation, Vessels, General Safety

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	
Audit Completion Date (The expected or actual date of completion of all changes resulting from the compliance audit):	

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Changes Date (Expected or actual date of completion of all changes resulting from the investigation):	
Most Recent Change Date: (The date of the most recent change that triggered a review or revision of safety information):	

Confidential Business Information

CBI Claimed:	

Section 9. Emergency Response

Written Emergency Response (ER) Plan

Community Plan (Is facility included in written community emergency response plan?):	Yes
Facility Plan (Does facility have its own written emergency response plan?):	Yes
Response Actions (Does ER plan include specific actions to be taken in response to accidental releases of regulated substance(s)?):	Yes
Public Information (Does ER plan include procedures for informing the public and local agencies responding to accidental release?):	Yes
Healthcare (Does facility's ER plan include information on emergency health care?):	Yes

Emergency Response Review

Review Date (Date of most recent review or update of facility's ER plan):	24-Feb-2011

Emergency Response Training

Training Date (Date of most recent review or update of facility's employees):	22-Feb-2010

Local Agency

Agency Name (Name of local agency with which the facility ER plan or response activities are coordinated):	AZSERC
Agency Phone Number (Phone number of local agency with which the facility ER plan or response activities are coordinated):	(602) 464-6346

Subject to

OSHA Regulations at 29 CFR 1910.38:	Yes
OSHA Regulations at 29 CFR 1910.120:	Yes
Clean Water Regulations at 40 CFR 112:	
RCRA Regulations at CFR 264, 265, and 279.52:	
OPA 90 Regulations at 40 CFR 112, 33 CFR 154, 49 CFR 194, or 30 CFR 254:	
State EPCRA Rules or Laws:	Yes
Other (Specify):	Phoenix Unified Fire Code

Executive Summary

EHS Policy

Shamrock Foods is committed to providing a safe and healthful environment for its employees, visitors, and our community. To this end, Shamrock Foods will strive to continuously improve our safety and environmental performance by adhering to the following policy objectives:

Developing and improving programs and procedures to assure compliance with applicable laws and regulations
Ensuring that personnel are properly trained and provided with appropriate safety and emergency equipment
Taking appropriate actions to correct hazards or conditions that endanger health, safety, or the environment
Considering safety and environmental factors in operating decisions including planning
Monitoring our progress through periodic evaluations

Facility Background

The Shamrock Food's Dairy Facility is engaged in the production of various dairy products, including pasteurized milk, cream, sour cream, cottage cheese, etc.

Operations at the facility include the receipt and storage of raw milk. The milk is then pasteurized and further processed to produce various milk products and cottage cheese.

The facility is equipped with typical dairy equipment, such as pasteurizers, homogenizers, various piping and tanks, bottling equipment, conveyors, boilers, washing equipment, and cold rooms. Two separate and independent refrigeration units supply ammonia refrigerant to cool a glycol/water solution, which is then used to chill process equipment and storage rooms.

A variety of materials and chemicals are used in the diary process, including raw milk, flavoring agents, and cleaning chemicals. The hazardous material of primary concern is anhydrous ammonia, used in the industrial refrigeration equipment. However, a variety of other potentially hazardous cleaning chemicals are stored and used on site.

Accident Release Prevention Program

Shamrock Dairy uses two independent ammonia refrigeration units for product and space refrigeration. Each of the refrigeration units contains less than 10,000 pounds of anhydrous ammonia. Accordingly, the facility, and its ammonia refrigeration systems, are exempted from OSHA's Process Safety Management (PSM) standard [29 CFR 1910.119], and the USEPA's Risk Management Plan (RPM) requirements [40 CFR CAA Section 112(r)] since onsite ammonia storage is under the 10,000 pound threshold.

Regardless of this exemption Shamrock Diary has voluntarily determined it would implement several important elements of the PSM and RMP process as a Best Management Practice. This RMP submittal and HAZOP Evaluation represents two of these voluntary elements.

Five Year Accident History

Shamrock Foods, Dairy Division has sustained no significant or reportable releases of hazardous chemicals, including ammonia, in its history of operation.

Emergency Response Program

Shamrock Foods has a number of emergency preparedness and response program elements, including the:

Development and implementation of a detailed written Emergency Preparedness and Response Plan.
Completion of a comprehensive third party mechanical integrity assessment of the two ammonia refrigeration processes.
Development of a computerized Emergency Orientation Presentation for the Phoenix Fire Department.
Successful completion of a Phoenix Fire Department Hazardous Material inspection and full completion of identified findings.
Development and submission of Facility Emergency Response Plan (FERP), as called for by the Arizona Emergency Response Commission.
Development and submission of a Hazardous Material Management Plan as called for in the Phoenix Unified Fire Code.
Installation of an ammonia detection and alarm system into each ammonia refrigeration process. Elevated ammonia levels will

result in an automatic shut down of the refrigeration system, activate a high-velocity ventilation system, and provide a local and remote alarm notification.

Planned Changes To Improve Safety

As noted in Shamrock's EHS policy, we are committed to continually improving our EHS operations. Planned improvements include:

- Development of an expanded ammonia refrigeration system Operations and Maintenance Plan
- Provide updated and expanded operator training
- Enhance the ammonia refrigeration systems' Preventative Maintenance Procedures
- Install automated purging systems on the refrigeration systems
- Install an expanded onsite emergency alarm system